

Algebra Practice Semester 1 Exam

Name _____

1. Evaluate $6W + 3X$ when $W = 5$ and $X = 3$.

[1] _____

2. Evaluate the expression $(7n + 4p)^2$ when $n = 1$ and $p = 3$.

[2] _____

3. Simplify: $6 \cdot 3^2 - 6$

[3] _____

4. Is $x = 4$ a solution of the equation $2x + 1 = 8 + x + 4$?

[4] _____

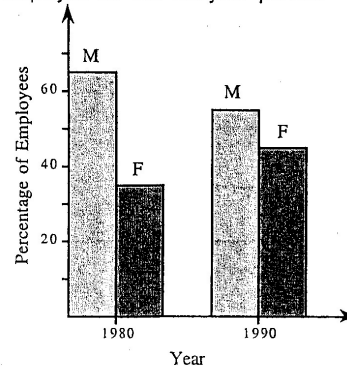
5. An airplane flies at a rate of 200 mi/h. If the airplane has flown for 4 h, how many miles has it traveled? Use mental math to solve the problem.

[5] _____

6. Write an algebraic expression for "three times the difference of a number x and 5."

[6] _____

7. The percentages of males and females working for a company in 1980 and 1990 are shown in the bar graph. What is the increase in the percentage of females employed for the ten-year period?



[7] _____

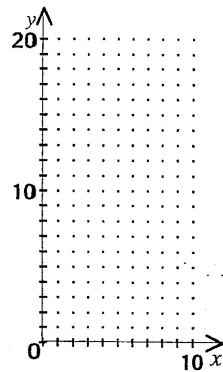
8. Does the input-output table represent a function? If it does represent a function, list the domain and range.

Input	2	3	4	5
Output	0	3	6	9

[8] _____

9. Make a table of values for the line $f(x) = x + 3$ using x -values of 1, 2, 3, 4, and 5. Plot the line.

x	1	2	3	4	5
$f(x)$					



[9] _____

10. Simplify the expression $-[-(4 + 3)]$

[10] _____

11. The yearly profit or losses for a restaurant are shown for a period of three years. Use a calculator to determine the restaurant's overall profit or loss in the three years.

1995	-\$21,665.42
1996	\$2589.49
1997	\$7500.90

[11] _____

12. Evaluate the expression $28 - (-x) - |10|$ when $x = -15$.

[12] _____

13. The morning temperature was -3° . By noon, the temperature was 10° . How many degrees had the temperature risen?

[13] _____

14. Find the difference of the matrices

$$\begin{bmatrix} 8 & -12 \\ 7 & -2 \end{bmatrix} - \begin{bmatrix} -3 & -5 \\ -4 & 2 \end{bmatrix}$$

[14] _____

15. Find the product: $(-9)(7)(-4)$

[A] 252 [B] -6 [C] 6 [D] -252

[15] _____

19. Simplify the expression $\frac{32g + 24}{8}$.

[19] _____

16. A salesman gets a commission of \$2.65 on each item sold. One morning he sold 15 calculators and 19 pocket radios. Find his commission.

[16] _____

20. A box contains 7 green, 5 yellow, and 3 purple balls. Find the probability of obtaining a green or a yellow ball in a single draw.

[20] _____

17. Use the Distributive Property to rewrite the expression. $3(x + 4)$

[A] $7x + 4$ [B] $3x - 12$
[C] $3x + 12$ [D] $3x + 4$

[17] _____

21. Solve: $\frac{7}{6}x = 168$

[21] _____

18. Simplify the expression $3(2 - x) - 2(3 - x)$.

[18] _____

Solve the equation:

22. $4n - 2(3 - n) = -13$

[22] _____

Solve the equation:

23. $\frac{y+3}{4} = 7$

[23] _____

24. Solve: $\frac{4}{11}y - 28 = 0$

[A] -77 [B] 77 [C] 1232 [D] -1232

[24] _____

25. Solve the equation:
 $5x + 14 - 2x = 9 - (4x + 2)$

[25] _____

26. An article regularly selling for \$48.84 is advertised at 15% off. Find the sale price.

[A] \$41.51 [B] \$48.11
[C] \$56.17 [D] \$7.33

[26] _____

27. Write the equation as a function of t :
 $8 = t - 7s$

[27] _____

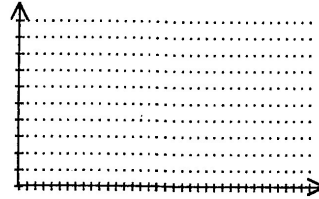
28. A motorist travels 337 miles while using 13.7 gallons of gasoline. Find the gasoline consumption in miles per gallon to one decimal place.

[28] _____

29. The table gives the times spent watching TV and the grades of several students.

Weekly TV (h)	6	12	18	24	30	36
Grade (%)	67.5	82.5	62.5	72.5	47.5	57.5

Display the data on a scatter plot of grade versus time. Describe any relationship you see.

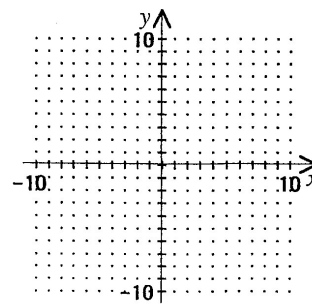


[29]

30. Write the equation for the vertical line passing through the point $(-5, 2)$.

[30]

31. Graph: $x = -7$

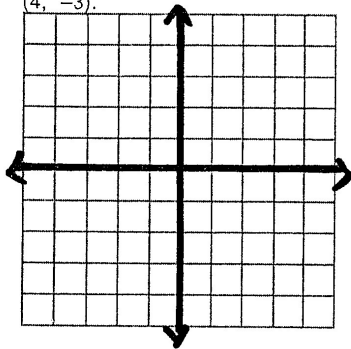


[31]

32. State the x - and y -intercepts of
 $y = 5x - 8$.

[32] _____

33. Plot the points and find the slope of the line passing through the points $(-4, 2)$ and $(4, -3)$.



[33] _____

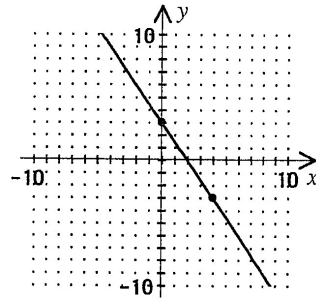
34. The distance traveled (in meters) by the Oregon slug can be modeled by the function $f(t) = 0.9t$, where t is the time in minutes. Find the distance traveled in 2.7 minutes.

[34] _____

35. Patty pays \$362 in advance on her account at the athletic club. Each time she uses the club, \$5 is deducted from the account. Find a linear function that models the value remaining in her account after x visits to the club. Find the value remaining in the account after 11 visits.

[35] _____

36. Write an equation of the line shown in slope-intercept form.



[36] _____

37. Find the y -intercept of the line containing the point $(6, 5)$ and having 0 slope.

[37] _____

38. Write an equation for the line containing $(-4, -3)$ and $(1, 12)$.

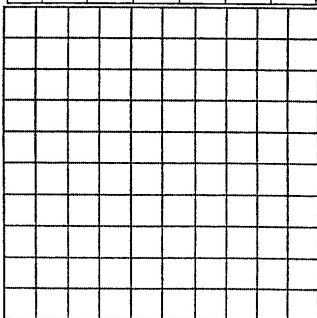
[38]

39. Write the standard form of the equation of the line with slope -3 passing through the point $(1, -4)$.

[39]

40. In the table, x represents the number of weeks you worked at a summer job and y represents the balance in your savings account. Construct a scatter plot for this data and find an equation you think best represents the data.

x	1	2	3	4	5	6	7	8
y	14	22	26	29	35	39	46	49



[40]
